

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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TITLE: MULTIBAND PLANAR ANTENNA

Preliminary Amendment: CLAIM AMENDMENTS

1. (Currently amended) Planar broadband patch antenna, ~~in particular~~ for transmitting and/or receiving digital and/or analogue terrestrial television UHF/SHF signals, said antenna comprising a:

a bandwidth low frequency tuned reflector ~~(2)~~ and a radiator ~~(3)~~ connected to a specific power supply ~~(4)~~ and, said radiator radiating in a frequency F1, ~~this radiator (3) further and~~ having a slot ~~(7)~~ tuned to a frequency F2, ~~characterized in that the~~ said radiator (3) also comprises at least being comprised of:

another slot ~~(8)~~ tuned to a frequency F3 different from the frequencies F 1 and F2, ~~these slots (7, 8)~~ said slot and the other slot being connected through a connecting slot ~~(9)~~ ~~designed capable of~~ forming a strip line coupling, ~~in order to ensure~~ ensuring an electromagnetic current in ~~each of these slots (7, 8)~~ said slot and said other slot of frequency F2 and F3.

2. (Currently amended) Planar patch antenna according to claim 1, ~~characterized in that the~~ wherein said slot and said other slot slots (7, 8) are defined of different sizes, in order to ensure their ensuring radiation at different frequencies F2 and F3.

3. (Currently amended) Planar patch antenna according to claim 1 ~~or 2, characterized in that the, wherein~~ radiation at different frequencies F2 and F3 of ~~the slots (7, 8)~~ said slot and said other

slot is ensured through a specific power supply ~~(4)~~ to the radiator ~~(3)~~ in an unsymmetrical way between said ~~slots (7, 8)~~ slot and said other slot.

4. (Currently amended) Planar patch antenna according to ~~any of the preceding claims,~~ characterized in that it includes, ~~arranged above the radiator (3) and parallel to the latter,~~ Claim 1, further comprising:

at least one parasitic element ~~(10)~~ with smaller dimensions, ~~for a widening of the a~~ bandwidth in ~~the~~ an upper portion of the a band, the element being arranged above said radiator and parallel to said radiator.

5. (Currently amended) Planar patch antenna according to ~~any of the preceding claims,~~ characterized in that ~~the~~ Claim 1, wherein said reflector (2) has at least two of its opposite peripheral edges (5, 6) thereof folded in a plane which is perpendicular to it thereto and; in ~~the~~ a direction towards ~~the~~ said radiator (3).

6. (Currently amended) Planar patch antenna according to claim 5, ~~characterized in that~~ wherein the opposite peripheral edges (5, 6) folded in the direction towards the radiator ~~(3)~~ are those intersecting ~~the~~ a plane of polarization (P_m) of the ~~latter~~ edges.

7. (Currently amended) Planar patch antenna according to ~~claim 5 or 6,~~ characterized in that Claim 5, wherein the peripheral edges ~~(5, 6) of the reflector (2)~~ are located at a distance (d) smaller than ~~the~~ a distance (p) ~~which is the one~~ separating the plane of ~~this~~ said reflector ~~(2)~~ with respect to ~~that~~ a plane of said radiator ~~(3)~~, in order to load the latter and to ensure a lowering of the low radiation frequency ~~of the antenna (1).~~